

# Gerard J. Vanderloop

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Over twenty years of design and management experience in electronic engineering, high speed circuit design, control systems, product development, and integration of renewable energy power systems. Accomplished in the following areas:

- High Speed Digital Design
- FPGA Design and Integration
- Project Management
- Micro Processor Design
- High Speed Analog Design
- Product Development
- System Integration
- Complex PCB Design
- Engineering Management

## Employment History

**GV & Associates, Inc., Ramona, CA**

**July 1992 - Present**

### **Engineer Design Technology**

- Develop business in the area Digital Signal Processing (DSP) for use in highly integrated digital HF & VHF receiver, exciters, and modems.
- Manage and organize a multiple discipline engineering organization.
- Conduct overall strategic marketing for product lines using DSP hardware and data encryption.
- Develop alliances with companies such as Qualcomm, AT&T, General Electric, Cubic Defense Systems, USAF, and US Government agencies.
- Design and market a product line of DSP Hardware Development Platforms based on Xilinx FPGA technology which has grown to annual sales of \$1M with a 45% profit margin.
- Design and fabricate numerous specialized high speed digital applications for government and military agencies
- Facilitate, transfer of technology and integration for new product line, as technical consultant for GE Water and Process Technologies.

### **Desalination Technology**

- Develop an off-the-grid solar powered sea water desalination system with a Cloud-based control system that allows controlling and monitoring remotely via a cellular network.
- Devise a solution for third world countries and other isolated areas that lack sufficient fresh water and infrastructure.
- Create market channels with existing clients for global distribution.
- Form alliance partnerships with large NFP relief organizations, renewable energy companies, and desalination system distributors.

**Technical Consultant – ASTRA, Inc. Boulder, CO**

**December 2014- Present**

- Design and fabricate a microprocessor / FPGA DSP PCB for a CubeSAT application.
- Develop the FPGA code for performing multiple FFTs and other processor intensive algorithms along with the microprocessor to FPGA interface.
- Provide final Hardware and Firmware Interface Control Documents (ICD) along with a user's manual.

**Technical / Business Consultant - Vari-RO, Inc. San Diego, CA**

**October 2008- November 2013**

- Oversaw project and technical development of the Integrated Pump and Energy Recovery (IPER) to prepare for commercial sales.
- Managed project costs on daily operations within a minuscule budget.
- Provided proper organization, structure, budgeting, and execution of company projects.
- Initiated manufacturing contracts with various vendors.
- Conducted teambuilding sessions to incentivize and motivate personnel in a high stress environment.
- Developed and integrated a proprietary FPGA-based control system for the IPER.

**Technical / Business Consultant - GE Water and Process Technologies, San Diego, CA**

**July 2011- November 2013**

- Transferred Vari-RO IPER technology which included a prototype unit, hardware, software, and patents.
- Advised and assisted personnel with the installation of the prototype Vari-RO IPER system at a remote customer site.
- Integrated existing system, tested, scheduled, and analyzed test results.
- Made recommendations to customer regarding system improvements, controls, and integration of the next generation IPER system.

## Education

B.S. Degree in Electronic Engineering, California Polytechnic State University, San Luis Obispo.